

**NORDIC ELECTRICITY MARKET**

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**CONTINUED RISE SUPPORTED BY FUELS**

Forecast to week 30:	
ENOFUTBLQ4-19	↗ Bullish (>0%)
ENOYR-20	↗ Bullish (>0%)
NP System	↔ Sideways (± 0,5%)
NEDEC9	↗ Bullish (>0%)

Market signals	spot	Q4-19	YR-20
Hydrologic balance	→	→	→
Precipitation forecast	↑	↑	↑
Temperature forecast	→	→	→
Spot	↑	→	↑
Production and transmission exch.	→	→	→
Emissions allowance	↑	↑	↑
Coal price	↑	↑	↑
German prices	↑	↑	↑
Technical analysis	↑	↑	↑

**FORECAST TO WEEK 30**

**ELECTRICITY DERIVATIVES**

**Front quarter**

In the current week, the weather will be on the evaporation side until Sunday. After that, precipitation rates are forecast to rise close to the normal level. Temperatures will rise dramatically above normal, with the hottest days in the Nordics being Friday and Saturday. According to the current forecasts, the hydro balance will continue on a decline. The earlier spot price hike will also lend support to quarterly product pricing. The electricity market will receive broad support from the bullish emission allowances and fuels. We expect quarterly product prices to rise.

**Annual products**

Annual products are provided with upward pressure by the strong rise of emission allowances and coal since the closing of the electricity market on Friday. Technical price signals are still pointing upward, but the market is clearly hesitant to break the resistance level of the front-year product. More distant annual products have been rising, but their price hikes are restricted by the marginal cost of renewable production. We expect annual products to rise with emission allowances and coal.

**SPOT MARKET**

Flow rates are decreasing after the weekend's rain and will drop below normal already on Wednesday. Nordic wind production is close to normal on Monday but will then tail off to become very low and will not rise back close to normal until Saturday. Finnish wind power production will be very low this week. Electricity imports from Russia to Finland will be scant during July because of maintenance work on the interconnection between Finland and Russia. We expect the system price to remain close to last week's and to settle at a weekly level averaging €37.5/MWh. We expect the Finnish area price to rise a little further and settle at an average of €50.0/MWh.

**EMISSIONS**

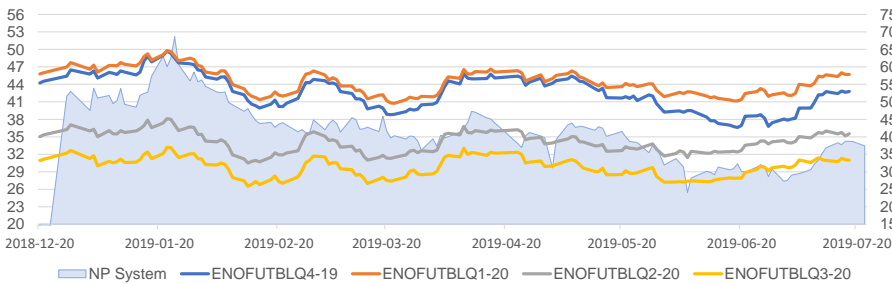
Emission allowance prices are being supported by weak wind conditions and warm weather across much of Europe. Warm weather increases the need for cooling and stokes demand for fossil fuels and emission allowances. Gas price dropped last week and became more competitive against coal, which may have a calming effect on the rise of emission allowances. Auction demand has also been slightly more subdued than before, although this may also be due to the start of the holiday period. Market support is provided by August's halved auction volumes. The next resistance level can be found at the all-time high of €29.69/t and the round figure of €30/t. We expect emission allowances to calm down but to be testing the next support level in the coming weeks.

Product	Date	Value	% chg	Chg (EUR)
ENOFUTBLQ4-19	19.7.2019	42.80	1.4%	0.60
ENOFUTBLQ1-20	19.7.2019	45.70	1.0%	0.45
ENOFUTBLQ2-20	19.7.2019	35.53	-0.2%	-0.07
ENOFUTBLQ3-20	19.7.2019	31.00	-0.3%	-0.10
ENOYR-20	19.7.2019	37.85	0.0%	0.00
ENOYR-21	19.7.2019	34.75	0.2%	0.07
ENOYR-22	19.7.2019	33.80	0.3%	0.10
ENOYR-23	19.7.2019	33.90	1.2%	0.40
ENOYR-24	19.7.2019	33.28	1.0%	0.33
NEDEC9	19.7.2019	28.85	0.1%	0.03
NEDEC20	19.7.2019	29.26	0.1%	0.04

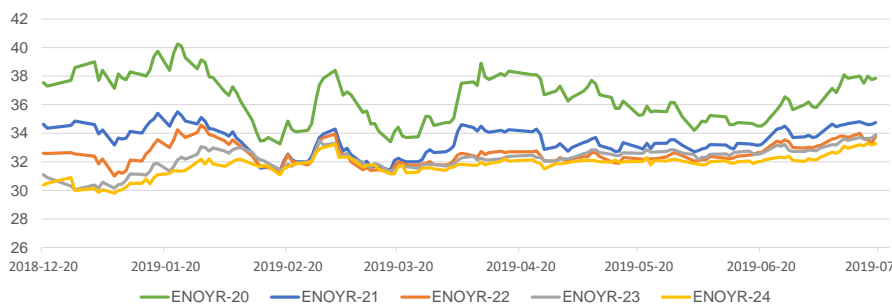
EPAD settlements				
19.7.2019 (€/MWh)	2019	2020	2021	2022
SYHEL	4.70	3.00	3.20	3.25
SE1-NP System	-1.25	-1.50	-2.25	-2.25
SE2 - NP System	-1.25	-1.50	-2.25	-2.25
SE3 - NP System	1.45	1.25	1.35	1.35
SE4 - NP System	2.50	2.60	2.60	2.60

Week's spot price change				
Price area (€/MWh)	Date	Value	% chg	Chg (EUR)
NP System	21.7.2019	37.71	9.4%	3.24
NP Area FI	21.7.2019	49.70	24.8%	9.89
NP Area SE1	21.7.2019	37.45	10.2%	3.45
NP Area SE2	21.7.2019	37.45	10.2%	3.46
NP Area SE3	21.7.2019	37.45	8.5%	2.93
NP Area SE4	21.7.2019	37.45	8.5%	2.93

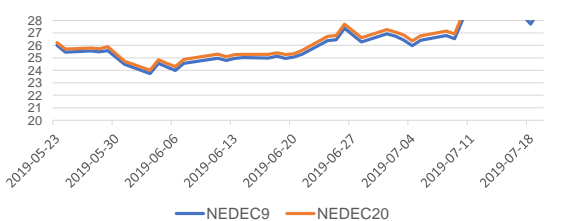
Quarters EUR/MWh (left), NP System EUR/MWh (right)



Years EUR/MWh



Carbon EUR/CO2 t



COMMENTS ON WEEK 29

ELECTRICITY DERIVATIVES

Front quarter

Last week, quarterly products took an upturn on Monday as the weather forecast dried up, with the rise also supported by emission allowances. There was a slight restoration on Tuesday, reflecting the broader decline of the energy market and also the decline of emission allowances. Movements on Wednesday and Thursday were moderate. On Friday, the weather forecast dried up and started to indicate warmer and drier conditions for the week ahead. At the weekly level the front-quarter rise totaled €0.6/MWh, but Friday closed at a level very close to the Monday one.

Annual products

The front-year product was on the increase also on Monday, driven by emission allowances and the weather. Tuesday saw annual products dragged down surprisingly strongly by emission allowances and coal. Annual products partly rebounded from the slide already on Wednesday, only to be pushed down again by the energy market on Thursday. On Friday, the upward movement of annual products was virtually non-existent as coal and emission allowances did not show any major rise until after the closing of the Nordic electricity market. German electricity prices were declining except for Monday and Friday. At the weekly level, the front-year product remained unchanged.

SPOT MARKET

Last week, spot prices continued on a strong upward trajectory. Nordic wind power production was clearly below normal apart from the first days of the week. Additionally, dry weather reduced flow rates and further strengthened the control of hydro power producers. In addition, the preceding week's sharp rise in the price of futures also increased the valuation of water. At the weekly level, the system price rose by more than €3/MWh. The Finnish area price rose a lot more strongly because of low wind power production and very low imports from Russia. With maintenance work underway, only 400 MW of the Russian transmission capacity is in use, but imports from Monday to Friday remained below 100 MW.

EMISSIONS

In the first days of last week, emission allowance prices rose to new 11-year highs. Demand has been boosted by August's halved auction volumes and the period of weak wind conditions. In addition, forecasts started to show signs of a new hot spell. Interday price movements correlate strongly with the German electricity market. Some of the rise was based on earlier news of Germany is considering the withdrawal of an amount of carbon permits corresponding to the closing of its coal capacity. Emission allowances remained almost unchanged at the weekly level.

DETERMINANTS AFFECTING THE MARKET ON WEEK 30

RESTRICTIONS IN PRODUCTION AND TRANSMISSION CAPACITY

Ringhals 4 (1103 MW), maintenance 6 July – 27 August 2019, 680 MW in use  
 Ringhals 1 (881 MW), maintenance 18 July - 15 August 2019, 0 MW in use.

Forsmark 1 (988 MW), failure 20-25-7-2019, 0 MW in use  
 Forsmark 2 (1118 MW), maintenance 8 – 28 July 2019, 998 MW in use  
 Forsmark 2 (1120 MW), maintenance 28 July - 12 August 2019, 0 MW in use

RU-FI (1300 MW), annual maintenance 30 June – 31 July 2019, 400 MW in use

- Nordic nuclear power plants are currently operating at a capacity utilization rate of 79%
- RU-FI transmission profile varies due to capacity payments, average imports from Russia last week were 15% of the maximum

AVERAGE SPOT PRICE AND EPAD

Price area (€/MWh)	2012	2013	2014	2015	2016	2017	2018	2019*
NP System	31.20	38.10	29.60	21.00	26.91	29.41	43.99	40.40
NP Area FI - NP System	5.50	3.10	6.40	8.70	5.54	3.78	2.81	2.13
NP Area SE1 - NP System	0.50	1.10	1.80	0.20	2.04	1.43	0.24	-1.58
NP Area SE2 - NP System	0.60	1.10	1.80	1.00	2.04	1.43	0.24	-1.58
NP Area SE3 - NP System	1.10	1.40	2.00	1.00	2.33	1.83	0.55	-1.37
NP Area SE4 - NP System	3.00	1.80	2.30	1.90	2.62	2.77	2.37	-0.33

\*Average for period between 1.1.2019-22.7.2019.

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 Source for data: intStream, Tilastokeskus

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Indicator	ENOFUTBLQ4-19	ENOYR-20
Coal-fired production	84 %	53 %
Coal price	40 %	3 %
Gas price (NBP)	62 %	17 %
German price level	31 %	60 %
Spot	56 %	19 %
Crude oil Brent	9 %	4 %
Water reservoirs	24 %	4 %
EUR/USD FX rate	1 %	0 %
Temperature	8 %	5 %
Precipitation	16 %	13 %

Definition

The above figures measure the ability of market determinants to describe the price changes occurred in last 6 months. The affect is measured as Coefficient of Determination\*. Each variable is evaluated independently. We use a color scale to demonstrate efficacy, green (strong), yellow (moderate), red (weak)

Forecast history	29	Chg	28	Chg
ENOFUTBLQ4-19	↗	1.4%	↗	10.5%
ENOYR-20	↗	0.0%	↗	4.7%
NP System	↗	9.4%	↗	25.1%
NEDEC9	↗	0.1%	↗	9.1%

